

Abstracts

A61

Rosenstock study and other two RCTs compared Glargine to Determir showed Glargine and Determir has not difference in HbA1c control and hypoglycemia rate for the patient with type 2 diabetes. Based on the Rosenstock study, cost-minimization study was performed. Mean daily detemir dose was higher (0.78 U/kg [0.52 with once daily dosing, 1.00 U/kg with twice daily dosing]) than glargine (0.44 IU/kg). Annual direct cost was estimated from the perspective of the health insurance in China. The time horizon was one year of treatment. The price was referred to Price in 2008. The currency is Yuan. The cost of insulin medication (glargine or detemir) and consumable items (needles, blood glucose test strips) was collected as the direct costs. Univariate sensitivity analysis on resource use and unit costs around base case parameter values was performed to test the robustness of the base case results **RESULTS:** Insulin glargine was associated with 40.77% (8949.05RMB per year) cost saving compared to insulin detemir, for an equivalent level of metabolic control, although the price of detemir is lower in China. Univariate sensitivity analysis on resource use and prices in Determir has been performed and confirmed the robustness of the results in favour of insulin glargine in China. The current study findings are consistent with the direction and magnitude of cost saving reported in Spain, Hungary, Argentina, Germany and UK. **CONCLUSIONS:** Insulin glargine was cost saving compared to insulin detemir in China. The information is importance for health care providers who are considering the total budget for the type 2 DM patient with basal insulin.

PDB35

COST-EFFECTIVENESS ANALYSIS OF METFORMIN COMBINED WITH SAXAGLIPTIN VS. METFORMIN COMBINED WITH SULFONYLUREAS IN TYPE 2 DIABETES PATIENTS IN ARGENTINA

Elgart J¹, Caporale J², Gagliardino JJ¹, Aiello EC³, Waschbusch M⁴, Jotimiansky L³

¹National University of La Plata, La Plata, Buenos Aires, Argentina, ²National University of La Plata, La Plata, Prov. de Bs As., Argentina, ³Bristol-Myers Squibb, Buenos Aires, -, Argentina, ⁴Bristol-Myers Squibb, Buenos Aires, Argentina

OBJECTIVES: To determine the cost-effectiveness ratio of adding saxagliptin to metformin therapy (SAXA+MET) compared to adding sulfonylureas (SULF+MET), in patients with type 2 diabetes mellitus (DM2) who have failed to achieve adequate glycemic control with metformin. **METHODS:** A discrete event simulation model (Cardiff Long term cost-utility model) based on UKPDS 68 with a fixed time increase was used to simulate disease progression and to obtain an estimate of the treatment's economic and health consequences in DM2 patients. The clinical efficacy parameters for saxagliptin were obtained from the literature; drug acquisition costs, adverse effects (AEs) and microvascular and macrovascular complications were taken into account. Costs were expressed in United States dollars (2009), with an annual 3.5% discount. The time horizon was 20 years. **RESULTS:** A lower number of non-fatal events was found for the SAXA+MET-treated group versus the SULF+MET-treated group. Additionally, the model predicted a lower number of fatal events due to macrovascular (146 vs. 151) and microvascular (17.7 vs. 17.9) events for the SAXA+MET-treated group vs. the SULF+MET-treated group. The total cost of the SAXA+MET cohort was 14% higher than that of the SULF+MET cohort. Treatment with SAXA+MET resulted in a higher number of QALYs (9,392 vs. 9,172) and LYGs (20,898 vs. 20,797) than treatment with SULF+MET; the additional cost per QALY and LY gained was US\$6,691 and US\$ 14,656 respectively. **CONCLUSIONS:** Considering the GDP per capita in Argentina, results suggest that the addition of saxagliptin to metformin therapy compared to the addition of sulfonylureas would yield acceptable cost-effectiveness ratios in DM2 patients in Argentina.

PDB36

ASSESSING THE IMPACT OF PAINFUL DIABETIC PERIPHERAL NEUROPATHY (PDPN) OR POST-HERPETIC NEURALGIA (PHN) RELATED HEALTH IMPAIRMENT ON LOSS OF PRODUCTIVE TIME (LOPT)

Gu NY¹, Bell C², Botteman M¹, Van Hout BA³

¹Pharmerit North America, LLC, Bethesda, MD, USA, ²GlaxoSmithBell, Research Triangle Park, NC, USA, ³University of Sheffield, Sheffield, UK

OBJECTIVES: To assess the impact of pDPN/PHN-related health impairment on LOPT in patients treated with chronic pDPN/PHN. **METHODS:** Using data from 777 employed adults with ≥3 months of pDPN/PHN and receiving pain medications, the effect of pDPN/PHN-related impairment on LOPT was estimated by: 1) single equation probit models (SEPM) assuming pain severity was exogenous, adjusting for respondents' demographics, depression, anxiety, pain duration, type of pain, social isolation (felt alone/didn't want to go out) and psychological distress (felt older/sleep difficulties); and 2) seemingly unrelated bivariate probit models (SUBPM), hypothesizing pain severity was endogenous and considering the same explanatory variables from the SEPM as instrumental variables (IVs). Pain severity was measured using a rating scale ranging from 0 ("no pain") to 10 ("pain as bad as you can imagine"). **RESULTS:** Thirty percent of respondents reported LOPT. Compared to respondents without LOPT, respondents with LOPT were younger, male, and had more moderate/severe pain (all $p < 0.001$). Pain severity appears significantly related with social isolation and psychological distress. Its relationship with LOPT appears only significant when the latter variables were neglected in the SEPM or when they were used as IVs in the SUBPM. Marginal effects indicated that, compared to respondents with pain severity < 4, those with pain severity ≥4 were 19.3% more likely to incur LOPT when using the SEPM and, 29.5% more likely when using the SUBPM (all $p < 0.001$). Model specification tests suggested that pain severity to be truly endogenous and that all IVs jointly had sufficient explanatory power (all $p < 0.001$). **CONCLUSIONS:** Pain severity has a significant impact on LOPT. The degree of this impact depends on ones'

ideas about how this impact is mediated by respondents' social isolation and psychological distress. Alternative IVs for adjusting endogeneity bias of pain severity are worth exploring.

PDB37

THE IMPACT OF DIABETES ON WORKPLACE ABSENTEEISM AND PRESENTEEISM: A COMPARISON OF CHINA AND JAPAN

Langley PC¹, Stankus A², Annunziata K², Gross H²

¹University of Minnesota, Minneapolis, MN, USA, ²KantarHealth, Princeton, NJ, USA

OBJECTIVES: The purpose of this study is to consider the extent to which estimates of the impact of diabetes on employment status, absenteeism and presenteeism varies between China and Japan. **METHODS:** Data from the 2008 and 2009 National Health and Wellness Surveys undertaken in Japan and urban China were used to estimate a logistic employment status model and ordered probit regression analyses of the determinants of absenteeism and presenteeism for those employed full-time, part-time or self employed. Absenteeism was determined by respondents indicating time off due to ill health in the past seven days; presenteeism was determined by respondents assessing the extent to which workplace productivity was impacted by their health status in the same time period. Apart from diabetic status the models included demographic and socio-economic characteristics, the Charlson Comorbidity Index, together with health risk factors and controls for absenteeism experience and diagnosed diabetes. **RESULTS:** In both China and Japan a diagnosis of diabetes was found to have a significant (1% level) negative impact on employment status (odds ratios 0.540 and 0.796 respectively). The results for absenteeism point once again to the significant (at 1% level) positive impact of diabetes on higher rates of absenteeism with odds ratios of 3.057 for China but only 1.410 respectively for Japan. In the case of presenteeism the impact of diabetes is still significant (1% level) in the case of China, but less so for Japan (odds ratios 2.102 and 1.179 respectively). **CONCLUSIONS:** The presence of diabetes has a significant and negative impact on workforce status as well as on absenteeism in China and Japan. Both countries show similar impacts, although in Japan the impact on presenteeism is less marked.

PDB38

THE IMPACT OF DIABETES ON WORKPLACE PRESENTEEISM: A CROSS NATIONAL STUDY IN THE EUROPEAN UNION

Langley PC¹, Annunziata K²

¹University of Minnesota, Minneapolis, MN, USA, ²KantarHealth, Princeton, NJ, USA

OBJECTIVES: The purpose of this study is to consider the extent to which estimates of the impact of diabetes on presenteeism can vary between major industrial countries and to assess the relative contribution of absenteeism, socio-demographic and health risk factors. **METHODS:** Data from the 2008 National Health and Wellness Survey, a national survey of five EU countries (the UK, France Spain, Germany and Italy) were used to estimate an ordered probit regression analysis of the determinants of presenteeism for those employed full-time, part-time or self employed. Presenteeism was determined by respondents assessing the extent to which workplace productivity was impacted by their health status on a 10-point scale. The model includes health risk factors (BMI, alcohol use, smoking), the Charlson Comorbidity Index (CCI) along with controls for absenteeism experience and diagnosed diabetes. **RESULTS:** Absenteeism, the percentage of time lost in the previous seven days, was the dominant factor impacting presenteeism for all countries (odds ratios 16.17 Germany to 9.23 Italy). With the exception of Spain, obesity and morbid obesity had a positive and significant impact with odds ratios in the range 1.33 – 1.04 and 2.08 – 1.60 respectively. The presence of diabetes was significant for all countries with odds ratios ranging from 1.29 (Italy) to 1.77 (Spain). Replacing diabetes with the CCI resulted in significant odds ratios in the range 1.33 (Germany) to 1.17 (UK). **CONCLUSIONS:** The presence of diabetes has a significant and negative impact on workplace presenteeism. The impact of diabetes is of a similar order of magnitude to the presence of obesity and morbid obesity.

DIABETES/ENDOCRINE DISORDERS – Patient-Reported Outcomes Studies

PDB41

BELIEFS AND EXPECTATIONS ABOUT DIABETES AND MEDICATION ADHERENCE IN PERSONS WITH TYPE 2 DIABETES

Iyer N, Thomas J

Purdue University, West Lafayette, IN, USA

OBJECTIVES: Associations between type 2 diabetic patients' beliefs and expectations about their illness and medication adherence were determined. **METHODS:** A cross-sectional self-administered written survey of type 2 diabetes patients was conducted in an outpatient pharmacy, at a primary care clinic affiliated with a hospital serving an urban population. Study inclusion criteria were being 18 years or older, diagnosed with type 2 diabetes at least 6 months prior to the time of the survey, and taking oral anti-diabetic medication. Exclusion criteria were use of insulin or not being able to read and write in English. The survey included the Brief Illness Perception Questionnaire (B-IPQ) to assess individuals' illness beliefs and the Morisky 8-item Medication Adherence Scale to collect self-reported adherence. Chi-square tests of association and Pearson correlation analysis were used to assess whether illness beliefs were associated with adherence. **RESULTS:** Two-hundred and five completed responses were obtained from 354 individuals who satisfied inclusion and exclusion criteria, for a response rate of 58%. The sample was 50% Caucasian, 50% African-American, 63% female and 72% had annual household income of less than \$25,000. A majority (56%) reported